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[54] HYDROPHILIC POLYURETHANES OF IMPROVED STRENGTH

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[58] **Field of Search** 521/176; 528/76; 525/460; 424/78

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[57] **ABSTRACT**

The strength and integrity of hydrophilic polyurethane resins prepared by reacting a diol component, an organic chain extender and an organic diisocyanate are improved by critical selection of the diol component, the amount of water in the reaction mixture and the mole rations of the reactants. The diol component is at least one of (1) a long chain poly(oxyethylene) glycol of molecular weight above 2500 and (2) a medium chain poly(oxyethylene) glycol or polyester glycol of 250–2500 molecular weight. The chain extender is a difunctional compound having a molecular weight of less than 250. The amount of water in the reaction mixture is 0.5 to 2.5 weight % and the urea content of the resins is from about 13.6 to 33.7 weight %.

21 Claims, 6 Drawing Sheets